| ,      | Index of Claims   |            |             |       |          |                  |              |              |                    |          |                 |           | Ap         | Application No.    |          |              |              |                 |          |           |            |                 |              | Applicant(s) |                       |              |            |                   |           |    |   |  |
|--------|-------------------|------------|-------------|-------|----------|------------------|--------------|--------------|--------------------|----------|-----------------|-----------|------------|--------------------|----------|--------------|--------------|-----------------|----------|-----------|------------|-----------------|--------------|--------------|-----------------------|--------------|------------|-------------------|-----------|----|---|--|
|        |                   |            |             |       |          |                  |              |              |                    |          |                 |           | 09/903,703 |                    |          |              |              |                 |          |           |            |                 | HIRAI ET AL. |              |                       |              |            |                   |           |    |   |  |
|        |                   |            |             |       |          |                  |              |              |                    |          |                 |           |            | Examiner           |          |              |              |                 |          |           |            |                 |              | Art Unit     |                       |              |            |                   |           |    |   |  |
| ]      |                   |            |             |       |          |                  |              |              |                    |          |                 | -         | .lc        | Joseph R. Pokrzywa |          |              |              |                 |          |           |            |                 |              | 522          |                       |              |            |                   |           |    |   |  |
| -      |                   | _          |             |       |          |                  |              |              |                    |          |                 | _         |            | ,30 <sub>1</sub>   | <u> </u> | 1            | <u> </u>     | <u> </u>        | y ** c   |           |            |                 |              | الد          |                       |              |            |                   |           |    |   |  |
| ļ      | √ Rejected        |            |             |       |          |                  |              |              | (Through numera    |          |                 |           |            |                    |          | T            | *121         | - EI            | •        |           | ] .        | $\Box$          |              |              |                       |              | 7          |                   |           |    |   |  |
|        |                   | v Rejected |             |       |          |                  | Cancelled    |              |                    |          |                 |           | _          | N Non-Elected      |          |              |              |                 |          | A         |            | ٩ţ              | ppe          | al           |                       |              |            | 1                 |           |    |   |  |
|        | = Allowed         |            |             |       |          |                  | ÷ Restricted |              |                    |          |                 |           |            |                    |          | $\prod$      | Interference |                 |          |           | 0          |                 | <u></u>      | ٠            | <br>ام - <sup>4</sup> |              | 1          |                   |           |    |   |  |
| 1      |                   | Allowed    |             |       |          |                  | Restricted   |              |                    |          |                 | <u>,</u>  |            |                    | Ľ        | <u>'</u>     | line         | ******          |          |           |            |                 | Objected     |              |                       |              |            |                   |           |    |   |  |
|        | Claim             | Claim Date |             |       |          | <del></del>      | Claim        |              |                    |          |                 |           |            | Da                 | -to      |              |              |                 | -<br>1 [ |           | laim       | _<br>T          |              |              | _                     |              | _          |                   | _         | I  |   |  |
| ľ      |                   | = 48       |             |       |          | П                | $\top$       |              |                    | T -      |                 | П         | Т          | Ť                  | Ť        | $\top$       | T            | $T^{T}$         |          |           |            | $\vdash$        | Т            | $\neg$       | Da                    | T            | Т          | $\dot{\Box}$      | Н         | I  |   |  |
|        | Final<br>Original | 0/61/1     | 12          |       |          |                  |              |              | Final              | Original | 11              |           |            |                    |          |              |              |                 |          | Final     | Original   |                 |              |              |                       |              |            |                   |           | 1. |   |  |
| (1)    | <u>چ</u> الل      | [:]        |             | 4     | $\perp$  | Ц                | $\perp$      |              |                    | ┺.       |                 |           | 1          | L                  |          |              |              |                 |          | . LL      |            |                 |              |              |                       |              |            |                   |           | ł  |   |  |
| (ND.)  |                   | 4          | KK,         | -     | 7        | $\Box$           | 7            | J            |                    | 51<br>52 | $\Box$          | $\Box$    | 7          | 丰                  | 7        | Ţ            | 工            | $\Box$          |          |           | 101        | П               | 丰            | 丰            | 土                     | 土            | 士          | 口                 | $\Box$    |    |   |  |
| İ      | 3                 | 1          |             | 1     | +        | H                | +            | 1            | <u> </u>           | 53       | $\vdash$        | 一         | 十          | +                  | +        | +            | +-           | $\dashv \dashv$ | {        |           | 102        | $\vdash$        | +            | +            | +                     | +            | +          | $\dashv$          | H         |    |   |  |
|        | 4                 | V)         | V           | 丰     | 丰        | 耳                | 工            | ] [          |                    | 54       | Ц               | 二         | コ          | 士                  | 1        | 丰            | 土            | 口               |          |           | 104        | 廿               | 士            | 士            | 士                     | t            | +          | $\Box$            | $\dashv$  | j  |   |  |
| }      | 5                 | Y          |             | _     | +-       | ₩                | +            | -            |                    | 55<br>56 | $\vdash \vdash$ | $\dashv$  | +          | +                  | +        | +            | 4            | $\dashv$        |          |           | 105        | $\Box$          | $\mp$        | 工            | Ţ                     | 丰            | 丰          | 口                 | $\exists$ | !  |   |  |
|        | 7                 |            | W           | 士     | 士        | 廿                | 士            | <u> </u>     |                    | 57       | $\Box$          | $\pm$     | +          | 士                  | t        | +            | +            | $\forall$       |          |           | 106        | ┝┼              | +            | +-           | +                     | ╀            | +          | ┼┤                | $\dashv$  | /  |   |  |
|        | 8.9               | K          | <b>Z</b>  - | 4     | 1        | $\Box$           | Ŧ            | ]            |                    | 58       | $\Box$          | $\exists$ | ユ          | 1                  | Ŧ        | $\top$       |              | $\Box$          |          |           | 108        | 口               | <b>ユ</b>     | 土            | 士                     | 士            | $\pm$      | $\Box$            |           | •  |   |  |
|        | 10                | 7          |             | +     | +-'      | H                | +            | ┨╏           |                    | 59<br>60 | H               | -+        | +          | +                  | +        | +            | +            | H               | }        |           | 109<br>110 | $\vdash \vdash$ | +            | 4            | 4                     | $\perp$      | Ŀ          | $\square$         | $\exists$ |    |   |  |
|        | 44                | Z          | W/          | 丰     | 士        | 口                | 士            | ]            |                    | 61       | 口               | $\exists$ | 士          | 士                  | 土        | 士            | 士            | $\Box$          |          | _         | 111        | $\vdash$        | +            | +            | +                     | ╁            | +          | ${\mathbb H}$     | $\dashv$  |    |   |  |
| (12)   |                   | *          | 4           | +     | +'       | ╀                | +            | -            |                    | 62<br>63 | $\Box$          | 4         | $\mp$      | 丰                  | Ŧ        | Ţ            | Ţ.           | П               |          |           | 112        | $\Box$          | 丁            | 工            | 1                     | 上            |            | 口                 | ゴ         |    |   |  |
| (6141) | 14                | Z          |             | 士     | +        | 廿                | 士            | 1            |                    | 64       | $\vdash$        | +         | +          | +                  | +        | ┿            | +-           | Н               |          |           | 113<br>114 | $\vdash$        | +            | +-           | +                     | +-           | $\dotplus$ | $\dashv$          | $\dashv$  |    |   |  |
|        | 15                | V          | 1           | $\mp$ | $\Box$   | 口                | 丰            | ] [          |                    | 65       | 口               | コ         | 丰          | 丰                  | 土        | 土            | 上            | 口               |          |           | 115        |                 | 土            | 士            | 士                     | 士            | +-         | H                 | $\exists$ |    |   |  |
|        | 16<br>17          | 19         | 4           | +     | +-'      | ++               | +            | ┧┟           | $\mid - \mid \mid$ | 66<br>67 | $\vdash$        | +         | +          | +                  | +        | +            | $\vdash$     | Н               |          |           | 116        |                 | 4            | Ŧ            | Į                     | Ţ            | oxdapsilon | П                 | $\Box$    |    |   |  |
|        | 293               | 1          |             | 士     | 世        | 口                | 土            | ] [          |                    | 68       | 廿               | $\pm$     | 1          | +                  | +        | +_           | $\vdash$     | Н               | ,        | $\exists$ | 117<br>118 | -               | +            | +            | +                     | +            | ├          | $\vdash$          | $\dashv$  |    |   |  |
|        | (19)<br>(20)      | M          | 4           | +     | $\perp$  | $\Box$           | 7            | ]            |                    | 69       | $\Box$          | $\dashv$  | Ŧ          | Ŧ                  | Ţ        | I            |              | П               | Į        |           | 119        | 口               | 丰            | #            | 土                     | 上            | 上          | Ц                 | $\exists$ |    |   |  |
|        | 20                | 7          |             | 士     | +1       | 十                | +            | ┨┞           | -                  | 70<br>71 | $\vdash$        | +         | 十          | +                  | +        | +            | $\vdash$     | Н               | ŀ        | $\dashv$  | 120<br>121 | +               | +            | +            | +                     | <del> </del> | igdash     | $\left[ -\right]$ | 4         |    |   |  |
|        | (22)              |            | 1           | 工     | 卫        | 口                | 工            | 1 [          |                    | 72       | 口               | コ         | 士          | 土                  | 土        | 土            |              |                 | į        |           | 122        | 1               | 士            | +            | 十                     | +            | $\vdash$   | ╁┼                | $\dashv$  |    |   |  |
| (NO,   | (3)<br>24         | H          | *           | +     | +        | +                | +            | <del> </del> |                    | 73<br>74 | H               | +         | +          | +                  | +        | $\bot$       | $\square$    | $\Box$          | - [      | $\Box$    | 123        | $\exists$       | 丰            | 工            | 工                     | 二            | $\Box$     | $\Box$            | $\exists$ |    |   |  |
|        | 25                |            |             | 土     | $\perp$  | 二                | 土            | <u> </u>     |                    | 75       | 廿               | $\pm$     | 士          | 士                  | +        | +-           | H            | Н               | ŀ        |           | 124<br>125 | $\dashv$        | +            | +-           | ╁                     | ╀            | H          | ┞┼                | $\dashv$  |    |   |  |
|        | 26<br>27          | $\vdash$   |             | +     | +        | +                | +            | -}   }       |                    | 76       | $\Box$          | $\dashv$  | 4          | 工                  | Į        | I            | $\Box$       |                 | F        | $\Box$    | 126        | $\Rightarrow$   | 丰            | 土            | 丰                     | 上            |            |                   | ゴ         |    |   |  |
|        | 28                |            |             | 士     | +        | 止                | +            | ┧┟           |                    | 77<br>78 | 1               | +         | +          | +                  | +        | +            | Н            | H               | }-       | $\dashv$  | 127<br>128 | +               | +            | +            | +                     | ╀            | $\sqcup$   | $\vdash$          | 7         |    |   |  |
|        | 29<br>30          | $\Box$     | $\prod$     | $\mp$ | $\Box$   |                  | 丰            | 1 [          |                    | 79       | 耳               | コ         | 丰          | 丰                  | 上        | 土            | 口            |                 |          |           | 129        | 士               | 士            | 士            | 士                     |              | $\vdash$   | <del>     </del>  | $\dashv$  |    |   |  |
| l      | 30                | 1          | ++          | +     | +-+      | <del>    .</del> | +            | ┨┞           |                    | 80<br>81 | +               | +         | +          | +                  | +        | $\perp$      | $\sqcup$     | H               | F        |           | 130        | $\dashv$        | 工            | I            | 丰                     | L            |            | 耳                 | $\exists$ |    |   |  |
|        | 32                | 口          | 긔           | 工     | 力        | 丰                | 土            | <u> </u>     |                    | 82       | 士               | 士         | 士          | +                  | +        | ╁            | H            | Н               | -        |           | 131<br>132 |                 | +            | ╀            | ╀                     | ╀            | $\vdash$   | $\vdash \vdash$   | $\dashv$  |    |   |  |
| ŀ      | 33                | $\vdash$   | +           | +     | 11       | +                | 1            | ┦.├          |                    | 83       | 斗               | 7         | $\bot$     | 丰                  | ļ        | 丰            | П            |                 | Į        | $\exists$ | 133        | ユ               | 土            | 二            | 上                     | 匚            |            |                   | ]         |    |   |  |
| l      | 35                | 一          | +           | +     | ++       | +                | +            | ┨            |                    | 84<br>85 | +               | +         | +          | +                  | +-       | +            | ┦            | $\dashv$        | F        |           | 134<br>135 | +               | +            | <del> </del> | H                     | L            | П          |                   | $\exists$ |    |   |  |
| . [    | 36                | 耳          | 耳           | 丰     | 口        | 1                | 工            | ] [          |                    | 86       |                 | $\pm$     | 士          | 士                  |          | +            | $\vdash$     | $\dashv$        |          |           | 136        | +               | +-           | +-           | +                     | ╁            | $\vdash$   | +                 | $\dashv$  |    |   |  |
| }      | 37                | <u>-</u>   |             | +     | $\dashv$ | ,                | +            | ┨┞           |                    | 87<br>88 | 4               | 4         | 7          | 工                  | L        | 丰            | 口            |                 | F        |           | 137        | 二               | 工            | 二            | 二                     |              | 口          |                   | I         |    | • |  |
|        | 39                | 寸          | 廿           | 士     | $\Box$   | 士                | 士            | 1 t          | -                  | 89       | +               | +         | +          | ╀                  | +        | +            | ┦┤           | $\dashv$        | -        |           | 138<br>139 | +               | +            | ┼-           | ┼-                    | $\vdash$     | $\dashv$   | -                 | 4         |    |   |  |
| }      | 40                | $\Box$     | $\Box$      | 工     | $\Box$   | 7                | 工            | 1 F          |                    | 90       | 二               | #         | 丰          | 土                  | 上        | 上            |              |                 | L        |           | 140        | 士               | 士            | +            | 士                     |              | $\vdash$   | +                 | $\dashv$  |    |   |  |
| }      | 41                | $\dashv$   | ++          | +     | ++       | -                | +-           | ┨┠           |                    | 91<br>92 | +               | +         | +          | 1                  | }        | Ļ            | $\Box$       | $\exists$       | F        |           | 141        | $\downarrow$    | T            | 工            | $ \perp$              |              | 口          | コ                 | $\exists$ |    |   |  |
| [      | 43                | ヸ          | 苹           | 丰     | 口        | 丰                | 工            | 1 <u>†</u>   |                    | 93       | 士               | $\pm$     | 士          | 士                  | †_       | +            | H            | $\exists$       | $\vdash$ |           | 142        | +               | +            | ┼─           | ╁                     | $\vdash$     | $\vdash$   | $\dashv$          | $\dashv$  | •  |   |  |
| }      | 44<br>45          | $\dashv$   | $\dashv$    | +     | ₩        | +                | <b>-</b> ∤∵' | }            |                    | 94       | 7               | 丁         | 工          | I                  | L        | 匚            | 口            | $\exists$       | ļ        |           | 144        |                 | 土            | 二            | 匚                     |              |            | コ                 | J         |    |   |  |
|        | 46                | 士          | 士士          | 士     | $\Box$   | 十                | +            | 1            |                    | 95<br>96 | 十               | +         | +          | ╁                  | ├        | ╁╌           | $\vdash$     |                 | ⊢        |           | 145<br>146 | +               | +            | ┼            | ╀                     | Н            | Н          | $\dashv$          | 4         |    |   |  |
| -      | 47                | $\dashv$   | $\bot$      | I     | П        | 工                | $\perp$      | 1 F          | ĺ                  | 97       | 丰               | 工         | 工          |                    | L        | 上            |              | コ               | E        |           | 147        | +               | +-           | +            | <u> </u>              | Н            | $\vdash$   | +                 | $\dashv$  |    |   |  |
| ŀ      | 48                | $\dashv$   | ++          | +     | H        | +                | ╁┤           | łŀ           | $\dashv$           | 98<br>99 | +               | +         | +          | ╀                  | $\vdash$ | igspace      | H            | 4               | F        |           | 148        | $\mp$           | I            | 匚            |                       | $\Box$       | $\Box$     | コ                 | ∄.        |    |   |  |
|        | 50                | 1          | 址           | 土     | 廿        | ユ                | +            | JĖ           |                    | 100      | +               | 十         | +          | ╀╴                 | $\vdash$ | <del> </del> | ┝╶╁          | -               | ┢        | $\dashv$  | 149<br>150 | +               | ╀╴           | ╁╾           | $\vdash$              | Н            | ┟╾╅        | +                 | $\dashv$  |    |   |  |
|        |                   |            |             |       |          |                  |              |              |                    |          |                 |           |            |                    |          |              |              |                 | -        |           |            |                 |              |              |                       |              |            |                   | _         |    |   |  |

Application No.

Applicant(s)